

REMARKS

This application has been reviewed in light of the Office Action January 26, 2006. Claims 17-35 are pending in the application. By the present amendment, claims 17, 21, 30, 32, 33-35 have been amended. Claims 1-16 have been canceled without prejudice. No new matter has been added. The Applicant reserves the right to file the subject matter of claims 1-16 by way of a separate divisional application. The specification has been amended to update related application data. The Examiner's reconsideration of the rejection in view of the amendment and the following remarks is respectfully requested.

By the Office Action, the Examiner objected to the claims as lacking clarity. The Applicant has amended the claims in a way believed to overcome the objections. Reconsideration is respectfully requested.

By the Office Action, claims 17-35 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite. The Applicant has amended the claims in a way believed to overcome the rejections. Reconsideration is respectfully requested.

By the Office Action, claims 17-35 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,508,937 to Abato et al. (hereinafter Abato).

Abato and the present invention are commonly assigned to IBM Corporation. Abato is directed to an incremental timing analysis system for circuit design. Abato provides a system where logic cones are employed in a look forward and look back manner to determine propagated changes in a circuit design. Abato is an incremental approach that attempts to consider on the affected components in the circuit due to a design change. However, Abato does not approach the problem as set forth in the present invention.

The present claims include, *inter alia*, a method (computer program device, etc.) for incremental statistical timing analysis including: conducting an initial statistical timing analysis and saving one or more arrival tightness probabilities and one or more required arrival tightness probabilities; creating a change list based on changes to the electrical circuit and based on one or more statistical timing queries, ... conducting incremental statistical forward propagation of the arrival times and the arrival tightness probabilities; conducting incremental statistical reverse propagation of the required arrival times and the required arrival tightness probabilities; and answering the one or more statistical timing queries.

Abato does not provide the statistical approach of the present invention, as recited in claim 17, 33-35. Abato does not disclose at least: statistical tightness probabilities, statistical timing queries and statistical forward or backward propagation. Hence the steps of: conducting an initial statistical timing analysis and saving one or more arrival tightness probabilities and one or more required arrival tightness probabilities; creating a change list based on changes to the electrical circuit and based on one or more statistical timing queries ... conducting incremental statistical forward propagation of the arrival times and the arrival tightness probabilities; conducting incremental statistical reverse propagation of the required arrival times and the required arrival tightness probabilities; and answering the one or more statistical timing queries, are not disclosed by Abato.

The present invention provides incremental statistical timing analysis which provides a timing analysis of system nodes/components in the presence of statistical fluctuations. The present invention builds on the structure of Abato in a novel and useful way. By employing statistical analyses, correlations between related (or unrelated components) in a

circuit may be statistically linked to assist in developing/predicting an outcome (e.g., answering a query). Such correlations are not disclosed in Abato.

Abato does not disclose or suggest incremental statistical timing analysis and instead provides for an incremental static timing analysis. The present claims recite, *inter alia*, incremental statistical timing analysis which employs statistical correlations between components and materials to support the timing analysis in a way not disclosed by Abato. Therefore, claims 17 and 33-35 are believed to be in condition for allowance for at least the stated reasons. Reconsideration of the rejection is earnestly solicited.

Claims 18-32 are dependent from claim 17, but are believed to be allowable for other reasons as well. As examples, these claims include models with a constant part, a correlated random part and an independent random part (claim 30), probability thresholds (23), and other features not disclosed by Abato.

In view of the foregoing amendments and remarks, it is respectfully submitted that all the claims now pending in the application are in condition for allowance. Early and favorable reconsideration of the case is respectfully requested.

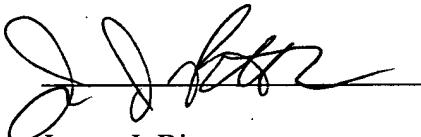
An executed Change of Correspondence Address is attached herewith. As such, Applicant kindly requests changing the Correspondence Address to the address listed below.

It is believed that no additional fees or charges are currently due. However, in the event that any additional fees or charges are required at this time in connection with the application, they may be charged to applicant's representatives Deposit Account No. 50-0510.

Respectfully submitted,

Date: 4/26/06

By:



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